

**REMARKS/ARGUMENTS**

By this paper, Claims 21, 26 and 27 are cancelled and 20 new claims, 28-47, are added. Claims 1-20; 22-25; 28-47 represent the set of claims currently pending in this application. In summary, multiple dependent claims 21, 26 and 27 are cancelled and multiple dependent claim 21 is replaced by independent claim 28 together with dependent claims 29-47 depending therefrom. The new claims are fully supported within the specification and reflect generally previously claimed subject matter encompassed by the cancelled multiple dependent claim 21. Reexamination and reconsideration of the application as amended are respectfully requested.

**The Present Application:**

For purposes of review, the subject application is directed to generating recommendations utilizing a rule system in combination with recommendation systems. There are many technologies available for presenting recommendations, tailored to a particular user. These include approaches based on rules, collaborative filtering, neural networks, data mining, and other artificial intelligence technologies. Generally, these known techniques fall into two broad categories – those that are rule based (typically developed by an expert in the relevant knowledge domain) and those that are empirical (reliance on data that is typically derived from traits and characteristics of users.)

The essence of the present invention is the novel way that recommendations are generated. Rather than simply deploying one or more of the known techniques, the present invention discloses a cooperative relation between a rule system and a recommendation system wherein the recommendation system is called from within a defined rule. In this way, greater flexibility, efficiencies and ease of use are achieved in the cooperative integration of heterogeneous personalization technologies.

**Claim Rejections under 35 U.S.C. § 112**

The Examiner rejected claims 21, 26 and 27 as being indefinite for failing to particularly point out and distinctly claim the subject matter of the present invention.

The above rejected claims 21, 26 and 27 are cancelled by this paper. Accordingly, there are no remaining issues under this rejection.

**Claim Rejections under 35 U.S.C. § 102(e)**

The Examiner rejected claims 1-27 as being anticipated by US patent number 6,697,824 issued to Bowman-Amuah (hereinafter "Bowman-Amuah"). Applicants respectfully traverse these rejections for the reasons set forth below.

**Claim 1**

The Examiner took the position, with regard to independent claim 1, that Bowman-Amuah discloses a computer system for generating recommendations including a defined interface for accessing each of the recommendation systems in said set of recommendation systems to permit a one of the recommendation systems to be invoked from an action component in a rule in the set of rules in the rule system. The Examiner referred applicants to Bowman-Amuah column 38, lines 17-67, in conjunction with FIG. 19.

However, Bowman-Amuah at column 38, lines 17-67 in conjunction with FIG. 19 fails to disclose a defined interface for accessing each of the recommendation systems in said set of recommendation systems to permit a one of the recommendation systems to be invoked from an action component in a rule in the set of rules in the rule system. Contrary to the Examiner's assertions in the rejection, nowhere does Bowman-Amuah, either in the relied-upon sections or elsewhere, disclose this critical element of applicants' present invention. Bowman-Amuah, in the

cited section, describes a simple personalization process. Steps for identifying the user, collecting information about the user, analysis and refinement of the collected information, matching resultant data with rules, and merging and delivering information to the user are disclosed. Various other general statements are made by Bowman-Amuah pertaining to the trend toward personalization and the abundance of software vendors offering personalization related software. Bowman-Amuah further advises an enterprise embarking on a personalization strategy to consider that a personalization strategy must be integrated with an enterprise's existing strategies pertaining to customer relationship (e.g. CRM), technology and eCommerce. This integration, identified by Bowman-Amuah, pertains to an integration of strategies. An integration of strategies is in no way related to an integration of technologies. The specific novel technical technique of the present invention for integrating disparate personalization systems by including a defined interface for accessing a recommendation system from the action component of a rule within the rule system is simply not found in the Examiner's reference. Identifying the existence of a rule system and a recommendation system within the various steps taught by Bowman-Amuah does not teach or suggest this critical cooperative characteristic disclosed within applicants' present invention.

By way of analogy, assume that applicants' invention described a novel way of generating electricity (instead of generating recommendations) by burning coal to produce some electricity, and then utilizing the gases from the burned coal in a process to further generate additional electricity. It would be unreasonable to reject the claims to this hypothetical invention based upon a description of a power plant in the prior art that was producing electricity from a plurality of gas and coal generators, unless there was further disclosed a sufficiently detailed cooperative relationship between the generator types within the electrical generating plant comparable to the disclosed invention. In this hypothetical analogy, the novelty lies in the cooperative interrelationship between

the coal production means and the gas production means. In like manner, applicants' invention has novelty in the disclosed cooperative interrelationship between a rule system and a recommendation system in the generation of recommendations.

A claim is anticipated only if each and every element as set forth in the claim is found, (see MPEP §2131). In this regard, it is respectfully submitted that the Examiner has not made a prima facie case of anticipation and has not met the required burden to sustain the rejection. Accordingly, claim 1 is deemed to be in condition for allowance.

#### **Claims 2-12**

Applicants respectfully traverse the Examiner's rejections. Claims 2-12 depend from independent claim 1. Therefore, the arguments articulated for claim 1 above apply with equal force to claims 2-12, and, accordingly, patentably define over the cited reference for at least the same reasons.

#### **Claim 13**

The Examiner rejected claim 1 on the basis that Bowman-Amuah discloses a computer system for generating recommendations including a defined interface for accessing each of the empirical recommendation systems in said set of recommendation systems to permit a one of the empirical recommendation systems to be invoked from an action component in a rule in the set of rules in the rule system and a set of event-listener connections, each connection comprising a means for passing data from the rule system to the empirical recommendation system for processing by the empirical recommendation system. The Examiner referred applicants to Bowman-Amuah column 33, lines 10-67, in conjunction with FIG. 16, FIG. 17 and FIG. 18 and column 34, line 49 to column 35, line 03.

However, the sections of Bowman-Amuah relied upon by the Examiner fail to disclose a defined interface for accessing each of the empirical recommendation systems in said set of recommendation systems to permit a one of the empirical recommendation systems to be invoked from an action component in a rule in the set of rules in the rule system. Contrary to the Examiner's assertions in the rejection, nowhere does Bowman-Amuah, either in the relied-upon sections or elsewhere, disclose this critical element of applicants' invention. While the cited reference discloses that most personalized sites use a combination of techniques, there is a complete absence of teaching pertaining to the technical details of how the combination occurs. Simply noting in the disclosure that a combination of techniques are used, does not teach, suggest or anticipate applicants' novel invention of integrating disparate personalization techniques through a defined interface wherein an empirical recommendation system is invoked from an action component in a rule within a rule system.

Applicants' claim 13 has the further limitation of a set of event-listener connections for passing data from the rule system to the empirical recommendation system for processing. Those of ordinary skill in the art will recognize that an "event-listener" refers to a specific system technique for the processing of events. An event-listen routine is one which events within a system are monitored (i.e. listened for) by a component that is distinct from the components that may be generating "events" from time to time. The listen routine may initiate action, or simply ignore, any particular event type (see §MPEP 2111.01, requiring claim terms to be construed as those skilled in the art construe them). Contrary to the Examiner's assertion in the rejection, nowhere does Bowman-Amuah, either in the relied-upon sections or elsewhere, disclose an "event-listener" as the term is understood by those of ordinary skill in the art. The cited reference utilizes the term "listen"

only within the context of human hearing and is entirely absent within the context of a programming technique.

In view of MPEP §2131, wherein a claim is anticipated only if each and every element as set forth in the claim is found, it is respectfully submitted that the Examiner has not made a prima facie case of anticipation. Accordingly, since the required burden to sustain the rejection has not been met, claim 13 is deemed to be in condition for allowance.

#### **Claims 14-20**

Applicants respectfully traverse the Examiner's rejections. Claims 14-20 depend from independent claim 13. Therefore, the arguments articulated for claim 13 above apply with equal force to claims 14-20, and, accordingly, patentably define over the cited reference for at least the same reasons.

#### **Claim 22**

The Examiner rejected independent claim 22 asserting that Bowman-Amuah discloses a method for generating a set of personalization recommendations using a rule system, and a set of empirical recommendation systems, the rule system comprising rules having predicates and actions including the steps of defining a set of rules in the rule system, selected rules in the set of rules comprising calls using the interface to the empirical recommendations systems; and invoking the rule system to provide a set of personalization recommendations by evaluating rule predicates and firing rule actions in the rule system and to call one or more of the empirical recommendation systems as defined in the fired rule actions.

The Examiner referred applicants to Bowman-Amuah column 49, lines 30-32; column 49, lines 47-49; and column 50, lines 21-29 including FIG. 16, FIG. 17 and FIG. 18 in support of the Examiner's rejection.

However, Bowman-Amuah, at the relied upon cited portions fails to disclose rules that comprise calls using the interface to the empirical recommendation systems and fails to disclose calling one or more of the empirical recommendation systems as defined in the fired rule actions. As stated previously in conjunction with arguments made for claim 1, the aspect of the cooperative relationship between the rule system and the empirical recommendation systems utilizing calls to empirical recommendation systems emanating from a fired rule is a novel, and critical, aspect of applicants' present invention. Contrary to the Examiner's assertion, nowhere does Bowman-Amuah, either in the relied-upon sections or elsewhere, disclose this critical claimed aspect of applicants' present invention. While the relied upon section of the cited reference discloses the utilization of a Personalization Matching Factor as the building block for a rule, there is simply no teaching, or even suggestion, of a cooperative relationship between a rule system and an empirical recommendation system embodied within the rule making process. Simply noting in the reference, that PMFs are the building blocks for rules and matching logic, does not teach or anticipate applicants' invention of integrating disparate personalization techniques through the defining of a set of rules comprising calls to empirical recommendation systems and firing rule actions in the rules to call empirical recommendation systems.

In view of MPEP §2131, wherein a claim is anticipated only if each and every element as set forth in the claim is found, it is respectfully submitted that the Examiner has not made a prima facie case of anticipation. Accordingly, since the required burden to sustain the rejection has not been met, claim 22 is deemed to be in condition for allowance.

#### **Claims 23-25**

Applicants respectfully traverse the Examiner's rejections. Claims 23-25 depend from independent claim 22. Therefore, the arguments articulated for claim 22 above apply with equal

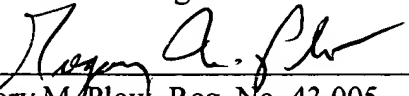
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force to claims 23-25, and, accordingly, patentably define over the cited reference for at least the same reasons.

## Conclusion

Applicant therefore respectfully requests that the Examiner reconsider all currently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this Application, the Examiner is invited to telephone the undersigned at the number provided. Prompt and favorable consideration of this Response is hereby solicited.

Respectfully submitted,  
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